NATIONAL BANK OF RWANDA
BANKI NKURU Y'U RWANDA

INYANDIKO Y'UBUSHAKASHATSI KU **IFARANGA-KORANABUHANGA RYA BANKI NKURU (CBDC) MU RWANDA**

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1. Incamake y'ubushakashatsi

Iyi nyandiko igaragaza iby'ingenzi byavuye mu bushakashatsi ku kuba u Rwanda rwakoresha ifaranga-koranabuhanga rya Banki Nkuru (CBDC). Ubushakashatsi bwakozwe ku bijyanye n'ubukungu, amategeko n'imari birebana na CBDC. Iyi nyandiko ishingira ku busesenguzi-mibare bw'amahirwe, ingorane n'imbogamizi ikerekana uburyo bwo gushyira mu bikorwa uyu mushinga wa CBDC mu Rwanda. Iyi nyandiko kandi iragaragaza uburyo iryo faranga ryaba riteye n'inzira byanyuramo kugirango rikorwe.

Ubushakashatsi busuzuma amahirwe ashoboka cumi n'atanu (15) yazanwa na CBDC mu Rwanda. Ane muri yo ni yo yagaragajwe ko afite uburemere kurusha ayandi. Ayandi mahirwe yagaragazwa mu gihe CBDC yaba yashyizweho, ariko ku rugero ruto ku buryo atafatwa nk'impamvu z'ibanze. Ikindi kandi, ayo mahirwe ane ashingiye ku bimenyetso bikomeye kandi bifitiwe icyizere cyo kuba yageza ku ntego kurusha andi mahirwe. Amahirwe ane (4) yagaragajwe nk'ingenzi ku ri CBDC ni aya akurikira:

1. Kongera ubushobozi bwo guhangana n'ibibazo biri mu miyoboro y'itumanaho, amashanyarazi adahagije, n'ibiza;
2. Guteza imbere guhanga udushya no guhangana ku isoko;
3. Kugira uruhare mu kugera ku cyerekezo cy'iterambere ry'ubukungu buzira gukoresha kashi mu kwishyurana;
4. Guteza imbere serivisi yo kwishyurana byambukiranya imipaka ikihuta, igahenduka, igatangwa mu mucyo kandi ikagera kuri buri wese.

Ingorane zikomeye ubu bushakashatsi bugaragaza kandi zifitiwe ibisubizo bike ni izirebana n'uko rubanda, abatanga servisi z'imari, n'abacuruzi bazakira bagakoresha CBDC mu Rwanda. Izi ingorane zigomba gukorwaho ubushakashatsi bwitondewe, mu nzira zose CBDC izanyuramo kugira ngo ikorwe kuko igipimo cyo kwakirwa gifite uruhare runini kugirango amahirwe yavuzwe azagerweho.

Imiterere ya CBDC y'u Rwanda yagaragajwe ko yakemura ibibazo, ikubiyemo amahame atandukanye. Inyigo yasanze ko byaba byiza CBDC itanzwe mu buryo bw'inzego ebyiri, kuri bose, nta nyungu itanga kandi kuri bamwe mu bazayikoresha umwirondoro ukazagenzurwa. Banki Nkuru y'u Rwanda irasabwa kuzashyiraho uburyo CBDC yakorana n'ubundi buryo bwo kwishyurana busanzweho hamwe n'izindi CBDC zizaba zihari, horoshywa kandi imikoranire n'abikorera. Hashyirwaho kandi ingano ntarengwa kuri CBDC buri muntu yatunga n'ingano ya CBDC zahererekanwa. Ikiguzi cyangwa inyungu kuri CBDC byagombye gushyirwaho habanje kugisha inama abafatanyabikorwa bikorera ku giti cyabo kubera imiterere yabyo igoye n'akamaro bifitiye ikoreshwa rya CBDC mu Rwanda. Ku rwego rwa tekiniki, ubushakashatsi bujya inama yo gukoresha uburyo bwa CBDC bushingiye ku bimenyetso (token) hakoreshejwe murandasi cyangwa ntayo, iteganya risesuye (programmability) n'ububiko bw'imibare (ikusanyamakuru) busangiwe.

Ubusesenguzi bujyanye n'amategeko bubona ko CBDC mu Rwanda yagombye kugengwa n'amategeko agenga inoti za Banki Nkuru y'u Rwanda, ariko hakaba hariho ibisabwa byabuza ishyirwa mu bikorwa mu buryo butaziguye rya CBDC mu Rwanda nk'ifaranga rikora ku buryo bwemewe n'amategeko. Ubushakashatsi bwanzura kandi ko byaba byiza ko itegeko rigenga Banki Nkuru y'u Rwanda ryavugururwa kugirango ritomore neza inshingano zo gutanga CBDC mu Rwanda. Iryo vugururwa ry'amategeko ryatanga ikizere, rikagabanya inzitizi zishobora kubangamira andi mavugurura y'amategeko agamije ubuziranenge bw'amategeko yagenga CBDC mu Rwanda. Ibi birasabwa, ariko hatirengagijwe ko inshingano za Banki Nkuru y'u Rwanda nazo ubu zaguwe.

Mu gusoza, ubushakashatsi burerekana ko hariho amahirwe mu mivugururire y'uburyo bwo kwishyurana. Hari byinshi byagaragajwe ko ayo mahirwe ahari. Ariko, hari ibyangombwa bitatuma ubu bushakashatsi bwanzura butibeshye ko u Rwanda rukeneye gutangiza CBDC, ubu cyangwa mu gihe cya bugufi. Igisabwa gikuru cyaba inzitizi ni ukwemerwa na rubanda, bikaba bisobanura impamvu hakenewe ubushakashatsi bwimbitse ku gukoresha CBDC mu Rwanda. Uburyo abazarikoresha bazayakira mu Rwanda byakagombye gukorerwa ubushakashatsi bwimbitse mbere yo gufata icyemezo mu gihe kigereranije no mugihe kirekire, gukenerwa kwa CBDC bizagenda byigaragaza kuri Banki Nkuru y'u Rwanda,

bitewe n'umurongo uriho ubu wo kwishyurana hakoreshejwe ikoranabuhanga, no gukenera gukoresha ifaranga-koranabuhanga rya Banki Nkuru mu gukomeza ubukungu aho amafaranga yo mu ntoki/ kashi akoreshwa na rubanda atazahabwa agaciro.

Ubushakashatsi buratanga inama yo kwitonda mu rugendo rwo gushyiraho CBDC, hagaterwa intambwe ku yindi nayo igenda ikorerwa ubugenzuzi mu rwego rwo kugerageza CBDC no kuyiha abantu ngo bayikoreshe mu Rwanda. Amahirwe yagaragajwe ni intambwe ihamye yaherwaho mu gutangiza igeragezwa rya CBDC. Urwo rugendo rwakagombye kuganisha mu kugaragaza andi amahirwe n'ubundi bushobozi byakwifashishwa mu gufata icyemezo uko Banki Nkuru y'u Rwanda igenda itera intambwe. Muri rusange, gukomeza ubushakashatsi kuri CBDC biha Banki Nkuru y'u Rwanda icyerekezo cyo gutangiza CBDC mu gihe kiri imbere kuko bituma Banki Nkuru y'u Rwanda yagura ubumenyi, ubushobozi n'ubunararibonye muri CBDC. Banki Nkuru y'u Rwanda izajya ku murongo umwe n'izindi Banki Nkuru zigerageza ifaranga-koranabuhanga muri Afurika no mu bindi bice by'isi, kugirango ishobore gukorana nazo mu mishinga ijyanye na CBDC, urugero nko mu igerageza ry'iri faranga mu bikorwa byo kwishyurana byambukiranya imipaka.

2. Intangiriro

CBDC ni ifaranga-koranabuhanga rishyirwaho na Banki Nkuru. CBDC ihabwa izina rimwe nk'iry'ifaranga risanzwe rikoreshwa mu gihugu, ifaranga ry'u Rwanda (FRW) kandi yemewe n'amategeko. CBDC iba ari umutungo wa Banki Nkuru y'u Rwanda, bityo ishyirwaho kandi ikagenzurwa na Banki Nkuru y'u Rwanda. Byongeye, ivunjwa mu yandi mafaranga nka kashi, amafaranga ari kuri konti kimwe n'amafaranga akoreshwa mu ikoranabuhanga ku gaciro kamwe (1:1). Ikindi, hitezwe ko iryo faranga (CBDC) rikora ibisanzwe bikorwa n'ifaranga risanzwe, urugero rikagira agaciro, gukoreshwa mu kwishyurana, no kubara agaciro. Ibiranga CBDC byaba byenda gusa n'ibya kashi. Kubera ko ribikwa k'uburyo bw'ikoranabuhanga, ryakoreshwa hifashishijwe ikoranabuhanga, cyangwa kwishyurana abantu batari kumwe.

N'ubwo CBDC rikoresha uburyo bwo kubika amakuru busa n'ubukoreshwa muri "sisitemu" nyinshi z'umutungo w'ikoranabuhanga, kugirango barebe ko imikorere ifte umutekano n'ibisabwa, zitandukana na "sisitemu" zidakorera hamwe kuko zizaba ziri mu buyobozi bw'ibanze bwa Banki Nkuru y'u Rwanda, kandi ishobora buri gihe guhindurwa ku mafaranga kashi. Bityo rero, ntibyaba impamvu y'ihindagurika no kutakirwa neza n'abacuruzi n'ibigo.

N'ubwo habayeho kumvikana ku miterere rusange ya CBDC nk'uko byagaragajwe haruguru, hariho ubundi buryo bwinshi butandukanye bujyana n'ukuntu yakorwa, agashyirwa mu bikorwa. Ibyo bitandukanye biterwa ahanini n'icyo azakoreshwa, uko abonwa n'ibisabwa mu rwego rwa tekiniki n'ibijyanye n'amategeko.

Ubushakashatsi bw'isi yose ku iterambere ry'amafaranga y'ikoranabuhanga ya Banki Nkuru bwabayeho hafi ku migabane yose uyu munsi, kuva muri Leta Zunze Ubumwe za Amerika n'Uburayi, Australia no muri Afrika. Ubushakashatsi bwo mu 2021 bwa Banki Mpuzamahanga yo Kwishyurana (BIS) bwerekanye ko 90 ku ijana za banki nkuru zakoze ubushakashatsi kuri CBDC (Bivuze ibihugu 98, birenze 90 ku ijana by'umutungo mbumbe w'isi [1]), 62 ku ijana zakoraga igerageza

[1] Atlantic Council CBDC Tracker.

ry'ikoranabuhanga n'imiterere ya CBDC naho 26 ku ijana zarimo kugerageza kuyikoresha[2]. Ubushakashatsi bwerekanye kandi ko 68 ku ijana ya banki nkuru zari zitegereje gushyiraho ifaranga-koranabuhanga rikoreshwa na bose (retal CBDC) mu gihe kiri hagati y'umwaka umwe n'itatu (1-3), cyangwa mu gihe kigererenije hagati y'umwaka umwe n'itandatu (1-6).

Mu mwaka wa 2022, Banki Nkuru y''u Rwanda yatangije ubushakashatsi ku birebana na CBDC mu Rwanda. Icyari kigamijwe ni ukureba impamvu y'ishyirwaho rya CBDC, uko ryakoreshwa, ibyiza n'ingaruka zo gutangiza CBDC no gutanga inama zishingiye ku byavuye mu bushakashatsi ku ikoreshwa rya CBDC mu Rwanda.

[2] Gaining momentum – Results of the 2021 BIS survey on central bank digital currencies. BIS Papers No 125. May 2022.

3. Uburyo ubushakashatsi bwakozwe n'intego zabwo

Intego y'u Rwanda mu gukora ubushakashatsi kuri CBDC ni ukugirango hemezwe ikoreshwa rya CBDC mu Rwanda. Iyi ntego igaragazwa na raporo y'ubushakashatsi mu buryo burambuye no mu ncamake muri iyi nyandiko. Ubushakashatsi buragaragaza iby'ingenzi ibyavuyemo mu bijyanye n'imikorere, tekiniki, ubukungu, amategeko n'imari. Ubu bushakashatsi kandi bugaragaza inzira y'ibizakorwa hamwe n'ibindi bisobanuro bya tekiniki ku bijyanye no guhanga CBDC. Ibibazo by'ingenzi bivugwa muri raporo y'ubushakashatsi ni ibi bikurikira:

- Ni ayahe mahirwe azanwa na CBDC kandi ni gute ayo mahirwe ari ngombwa/yagirira akamaro u Rwanda?
- Ugereranije n'ibisubizo bishobora kuboneka, ni gute CBDC yaba ariyo izana ibisubizo byiza nk'uburyo bw'ingamba zishoboka zafatwa?
- Ní ibihe byago/ingorane n'imbogamizi zazanwa no gushyiraho CBDC mu Rwanda? Ni gute zakwirindwa cyangwa zikagabanywa?
- Ni iizihe ntego n'ibyifuzo by'abafatanyabikorwa batandukanye byakwitabwaho mu gihe cyo gushyiraho CBDC? Ni iki byazana ku bikorwa, guhanga no gushyiraho CBDC?
- Ni ibihe bintu bisabwa kugirango u Rwanda rushobore gushyiraho ifaranga-koranabuhanga (CBDC), bigendeye ku biteganywa n'amategeko y'u Rwanda muri iki gihe?
- Ni izihe ngamba/ntambwe zikenewe mu gihe kiri imbere kugirango CBDC ikoreshwe mu buryo rusange?

Iyi nyandiko irimo amakuru agamije gutanga urufatiro rw'ibindi byemezo bijyanye n'ishyirwaho rya CBDC. Bitewe n'imiterere y'ahantu, bizaba ngomwa/bizasaba bimwe na bimwe byagaragajwe muri iyi nyandiko. Ni ingenzi gukomeza kureba uko ishyirwaho rya CBDC rigenda ritera imbere, kongera gusuzuma amahirwe, ibyago/ingorane n'inzitizi.

Ubushakashatsi bwakoresheje iby'ingenzi byavuye mu byiciro bya mbere by'isesengura ni ukuvuga: isesengura rya serivis zo kwishyurana, ubushakashatsi

ku byanditswe n'ibisubizo by'ibibazo by'abafatanyabikorwa mu bijyanye n'urwego rw'imari mu Rwanda.

Isuzuma ry'ishyirwaho rya CBDC mu Rwanda, rishingiye ku busesenguzi bw'umubare w'amahirwe, ibyago n'imbogamizi bijyanye na CBDC. Aho bishoboka ibyavuyemo bishyigikiwe n'imibare ifatika yatanzwe na Banki Nkuru y'u Rwanda cyangwa iboneka ku zindi mbuga zibishinzwe. Isesengura ryakozwe hashingiwe ku nyandiko yakozwe n'ihuriro ry'ubukungu ku isi (World Economic Forum) irebana na CBDC[3] kandi cyavuguruwe kugirango gifashe kumenya ubwiza bwa CBDC nk'amahitamo ya politiki mu Rwanda, ugereranije n'amahitamo yandi.

[3] Central Bank Digital Currency Policy-Maker Toolkit | World Economic Forum (weforum.org)

4. Ibibazo by'Urwego rw'Imari mu Rwanda

Mu myaka ya vuba ishize, urwego rw'imari mu Rwanda rwateye imbere kandi ruraguka mu buryo bugaragara. Uru rwego ruragenda rukura bikagaragarira mu mitere itandukanye y'ibigo birugize kandi bigenda byiyongera: Banki, Abatanga serivisi zo kwishyurana, Ibigo by'imari iciriritse, amakoperative yo kuzigama no kuguriza (SACCOs), Ibigo by'imari bitakira amafaranga abitswa (NDFIs), Ibigo by'ubwishingizi n'Ibigega by'ubwiteganyirize bwa pansiyo.

Amabanki aracyagize igice kinini cy'urwego rw'imari aho mu mpera za Kamena 2022, yari yihariye 67.4 ku ijana by'umutungo wose w'urwego rw'imari, hagakurikiraho urwego rw'ubwiteganyirize bwa pansiyo rufite na 16.7 ku ijana. Inzego z'ubwishingizi n'ibigo by'imari iciriritse zifite 9.2 ku ijana na 5.8 ku ijana uko zivuzwe zikurikirana. Ni mu gihe inzego zisigaye, zirimo Abacuruza amafaranga y'amanyamahanga, Abatanga serivisi zo kwishyurana (PSPs) n'Ibigo by'imari bitakira amafaranga abitswa (NDFIs) zifite 0.9 ku ijana bisigaye[4].

Mu ntumbero yo koroshya imikoranire myiza hagati y'ibigo by'imari bitandukanye, uburyo bwo kwishyurana mu Rwanda (RNPS) bwatejwe imbere ku buryo bugaragara mu myaka icumi ishize. Mu bikorwa by'ingenzi byagezweho harimo: itangizwa, mu mwaka wa 2011, ry'uburyo bw'ikoranabuhanga bukoreshwa n'ibigo by'imari iyo byishyurana hagati yabyo bukanacunga impapuro z'agaciro buzwi nka RIPPS (Rwanda Integrated Payments Processing System); izamurwa ry'urwego rw'ubwo buryo bw'ikoranabuhanga kugirango rushobore kugerwaho no gukoreshwa n'ibigo by'imari bitari banki no kugirango rushobore gukora amasaha yose; ishyirwaho ry'Urwego rushinzwe gucunga inyandiko z'agaciro (CSD); itangizwa ry'uburyo bwo kwishyurana bukoreshwa n'abaturage igihe bishyurana bakoresha ibigo bitandukanye bitanga serivisi zo kwishyurana buzwi nka "RNDPS" ('Rwanda National Digital Payment System).

Guteza imbere Uburyo bwo kwishyurana mu Rwanda (RNPS) biracyakomeza, kandi bikurikiza intego z'ubukungu zasobanuwe mu Ngamba zashyizweho

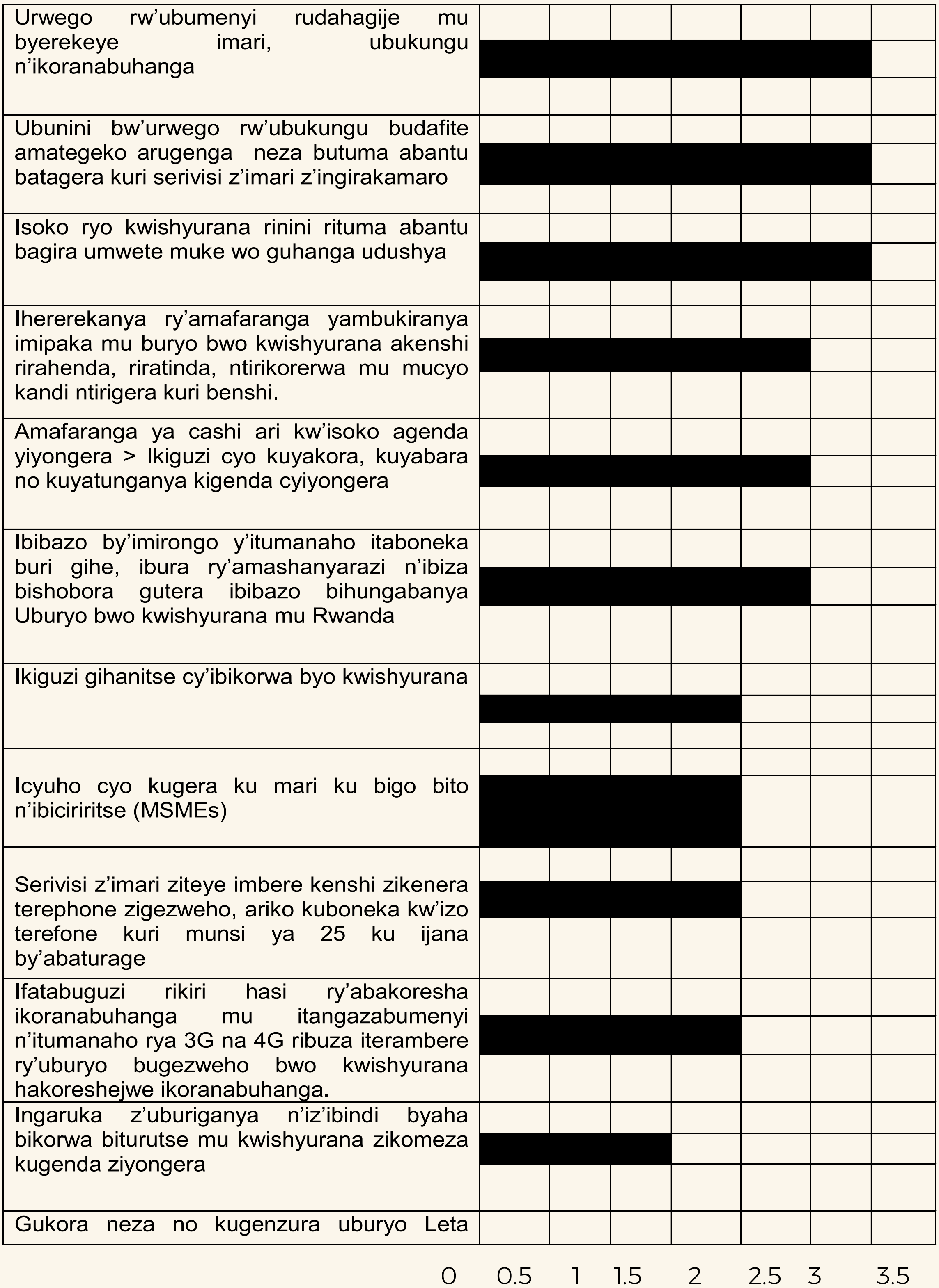
[4] BNR's Annual financial stability report. July 2021-June 2022

zerekeye Uburyo bwo kwishyurana mu Rwanda. Ibi biteganya ko uburyo bwo kwishyura bworoshya kubaka ubukungu bushingiye ku uburyo bwo kwishyurana hakoreshejwe ikoranabuhanga (cashless economy); gushyiraho urubuga rufasha ihangwa ry'udushya mu bikorwa na serivisi, bituma hatangwa serivisi zo kwishyurana zihendutse, nziza kandi z'ingirakamaro ku banyarwanda kandi bituma serivisi z'imari zigera ku bantu benshi, bigatuma Igihugu kigera ku ntego yacyo yo kubona abantu bafite imyaka y'ubukure bagerwaho na serivisi z'imari ku kigero cy'ijana ku ijana[5].

Ubushakashatsi bwagaragaje ibikorwa by'ingenzi byagezweho hamwe n'imbogamizi cumi n'eshanu (15) mu rwego rw'imari n'uburyo bwo kwishyurana mu Rwanda. Izi mbogamizi zakoreshejwe mu isesengura ryakozwe kugirango hemezwe amahirwe yo gushyiraho CBDC n'ubundi buryo bushoboka hashingiwe ku buremere bwa buri kibazo n'agaciro kacyo, hashingiwe ku isuzuma ryakozwe n'impuguke yigenga noneho ibibazo bihabwa amanota kuva kuri 1 kugeza kuri 3 (reba ishusho hepfo).

[5] Rwanda Payment System Strategy. Towards a cashless Rwanda /2018-2024

Uburemere bw'imbogamizi



5. Ibyiza by'ifaranga-koranabuhanga mu Rwanda

Hashingiwe ku isuzuma ry'imiterere yo kwishyurana muri iki gihe mu Rwanda, ubushakashatsi bwerekanye amahirwe cumi n'atanu ya CBDC aho buri mahirwe ajyanye n'imwe mu mbogamizi cumi n'eshanu (reba Umugereka 1). Muri ayo mahirwe harimo ane afatwa nk'ingenzi kuri CBDC ashobora gutanga inyungu nyinshi zitaboneka hakoreshejwe andi mahitamo. Ayo mahirwe y'ingenzi kuri CBDC mu Rwanda ni:

1. Kongera ubushobozi bwo guhangana n'ibibazo biri mu miyoboro y'itumanaho, amashanyarazi adahagije, n'ibiza;
2. Guteza imbere guhanga udushya no guhangana ku isoko;
3. Kugira uruhare mu kugera ku cyerekezo cy'iterambere ry'ubukungu buzira gukoresha kashi mu kwishyurana;
4. Guteza imbere serivisi yo kwishyurana byambukiranya imipaka ikihuta, igahenduka, igatangwa mu mucyo kandi ikagera kuri buri wese.

Mu bikurikira turerekana ibitekerezo bisobanura neza impavu ya CBDC.

1. Kongera ubushobozi bwo guhangana n'ibibazo biri mu miyoboro y'itumanaho, amashanyarazi adahagije, n'ibiza

Muri rusange agaciro ko kwishyurana hakoreshejwe ikoranabuhanga k'umusaruro mbumbe mu Rwanda byiyongereyeho 16.4 ku ijana muri 2021-2022 bigera kuri 111.9 ku ijana. Agaciro ko gucuruza amafaranga kuri telefone kiyongereyeho 140 ku ijana kuva kuri miliyari 917 kugera kuri miliyari 381[6]. Ubwiyongere bwo kwishyurana hakoreshejwe ikoranabuhanga no kwibanda ku mafaranga asigaye mu bigo bitanga serivisi z'itumanaho bigira ingaruka (ingorane) nyinshi ku mbaraga mu kwishyurana m'uburyo bw'ikoranabuhanga.

Ikindi kintu gitera gushishikarira kongera imbaraga mu gukora neza k'uburyo bwo kwishyurana (RNPS) ni ukureba ingaruka mu gihe habayeho guhagarara k'umuriro w'amashanyarazi. Banki Nkuru y'u Rwanda yashoye imari mu kuvugurura RIPPS no gushyiraho RNDPS. Nk'uko Banki Nkuru y'u Rwanda

[6] NBR Annual Report 2021/2022.

ikomeza ivuga, n'ubwo ingano y'amafaranga yoherejwe yakomeje kuba imwe kuva 2020/2021 kugeza 2021/2022, agaciro kiyongereyeho 23 ku ijana kagera kuri miliyari 9.3 z'amafaranga y'u Rwanda. Raporo ngarukamwaka ya Banki Nkuru y'u Rwanda yavuze kandi ko "muri rusange agaciro ko kwishyurana hakoreshejwe ikoranabuhanga kiyongereyeho 16.4 ku ijana k'umusaruro mbumbe muri icyi gihe gisuzumwa kagera kuri 111.9 ku ijana". Mugihe kwishyurana bigenda bikorwa mu buryo bw'ikoranabuhanga, ingorane n'ingaruka zituruka ku guhagarara k'umuyoboro w'itumanaho zishobora kuba nyinshi ku bukungu.

N'ubwo umuriro w'amashanyarazi ubura rimwe na rimwe mu Rwanda, mu myaka yashize icyo kibazo cyagiye kigabanya ubukana kubera ishoramari mu bikorwa remezo by'amashanyarazi mu gihugu. N'ubwo bimeze bityo ariko, kimwe n'ibihugu byinshi byo mu karere, u Rwanda rufite ibibazo byo kubona amashanyarazi ameze neza kandi ahagije, cyane cyane mu cyaro[7]. Ibi bishobora kuba ikibazo ku buryo bwo kwishyurana hakoreshejwe ikoranabuhanga mu Rwanda, kubera ko guhagarara kw'amashanyarazi bihagarika ibikorwa byo kwishyurana kandi bigatera ikibazo abakiliya bakoresha ubwo buryo bwa cashilesi. Ibi bigira ingaruka k'ubucuruzi n'abantu ku giti cyabo mu mikorere yabo ya buri munsi, kandi bishobora no kugira ingaruka ku iterambere rusange n'izamuka ry'ubukungu bw'igihugu.

Umushinga wa CBDC ugomba kuzirikana ibura ry'umuriro w'amashanyarazi, kandi ukitegura mu gihe habayeho kunanirwa kw'uburyo bwo gukora (sisitemu) gukomeza gutanga serivisi. Ikigereranyo cy'ibibazo ibura ry'amashanyarazi ryatera kuri CBDC cyaterwa n'imiterere ya CBDC yakoreshejwe.

Kimwe mu bisubizo bya CBDC ni ubushobozi bwo kwishyurana mu buryo bwizewe nta murongo wa murandasi uhari aho uwishyura n'uwishyurwa batari k'umurongo, yewe nta n'umurongo wa murandasi uhari kabone n'iyo hataba umuriro w'amashanyarazi. Ibi byashoboka CBDC iteye nk'ibimenyetso (tokens), bikoreshwa mu kohererezanya agaciro ako kanya bitabaye ngombwa kunyuzwa mu buryo bwo kwishyurana (clearing and settlement systems). Ariko, ibi bizaterwa

[7] Shyirambere, G. *et al.* (2021). Study of Assessing the Stability of Rwanda's Power System from Big Data Based on Power Generation.

cyane n'imiterere ya CBDC yashizwe mu bikorwa hagati yo gushingira kuri (account based) cyangwa ku bimenyetso (token based).

Muri rusange, uko ibisabwa mu rwego rwa tekinike ari bike kugirango habeho kwishyura kwa CBDC, ni nako imbaraga z'urwo rusobe zigenda ziyongera[8]. Nk'urugero, ibihugu byinshi bifite umuyoboro wa 2G (bitandukanye n'uwa 4G), bivuze ko kwishyurana mu buryo bw'ikoranabuhanga hakoreshejwe imibare ya USSD bifite akarusho mu bisubizo byo kwishyurana binyuze mu ikoranabuhanga bisaba umuyoboro mugari. Ishyirwa mu bikorwa rya CBDC ryashoboka bitanyuze ndetse no k'umuyoboro wa 2G, niba ibikorwa bishobora - ku mubare muto w'ibikorwa - gukemurwa hagati y'abayikoresha binyuze kuri ikoranabuhanga rya "Bluetooth" cyangwa irya "NFC"; ikoranabuhanga mu itumanaho ridashingiye ku murongo wa murandasi.

Muri iki gihe cyo kwishyurana mu Rwanda hadakoreshejwe amafaranga ya kashi, abaguzi n'abacuruzi bafite amahitamo abiri:

Haba bakoresha ikoranabuhanga rya telefoni, nabyo bisaba guhuza umuyoboro wa 2G ariko bitanga gusa uburyo busanzwe kandi buciriritse bwo kwishyurana; cyangwa se bakoresha uburyo bashyira kuri za telefoni zigezweho ariko zikoresha umuyoboro wa 3G cyangwa uwa 4G kugirango bikore. Imbogamizi ni uko kuri ubu nta buryo bwo kwishyurana bwa cashilesi buhari bwakorwa hadakoreshejwe umuyoboro wa murandasi, nta na serivisi yo kwishyurana igezweho yakwemera hakoreshejwe umuyoboro wa 2G. Abatanga imiyoboro igendanwa (MNOs) bagaragaje ko ingamba zabo zo guhanga udushya zigamije kuzamura urwego rwo kwiyandikisha kuri serivisi z'imiyoboro ya 3G na 4G. Ubu buryo bubafasha kongera abaguzi babo. Ni uburyo bwiza bujyanye n'icyerekezo cy'ubukungu, bitewe n'uko ibigo by'itumanaho ari ibigo biharanira inyungu. Nyamara, ikiguzi cy'amakuru ajyanye no kwiyandikisha gikomeza kuba kinini, hamwe n'igiciro cy'umuyoboro wa 4G kuri jigabayiti (gigabyte) ugereranije inshuro 13 igiciro cy'umuyoboro wa 3G. Byongeye kandi, ibiciro ku bikoresho bifasha imiyoboro ya 3G / 4G (uburyo bwa POS cyangwa telefoni zigendanwa) biri hejuru cyane byaba

[8] Three lessons from Project Sand Dollar, OMFIF, 2020.

inzitizi ku ntego yo kuzamura urwego rwo kwiyandikisha. Inzego za Leta zishobora kugira icyo zikemura kugira ngo icyi cyuho ku isoko gikemuke hatezwa imbere ibisubizo bijyanye no kwishyurana bitanga serivisi zirenze kwishyurana bisanzwe kandi bidahenze kubigeraho no kubikoresha.

Kurwanya ibura ry'umuriro w'amashanyarazi biragoye kubigeraho kuko uburyo bwose bwo kwishyurana hakoreshejwe ikoranabuhanga bukenera amashanyarazi. Nk'urugero, kwishyurana binyuze ku ikarita ikoranyubuhanga bishobora gukorwa gusa igihe hari amashanyarazi, binyuze muri NFC [9] . Kubw'amahirwe, abasoma ikarita ikoreshwa na bateri (harimo na telefoni zigezweho) bishora koroshya iki kibazo.

Kunoza CBDC igashobora guhangana n'ibibazo na byo bizafasha kugera ku ntego. By'umwihariko ku matsinda atishoboye cyangwa atagerwaho na serivis z'imari, gusabwa gukoresha umuyoboro wa 4G na / cyangwa ingufu z'amashanyarazi bishobora kubabera inzitizi kurusha ku gice gisigaye cy'abaturage. Kwita ku byo abaguzi bifuza ni ingenzi cyane mu kugena uko CBDC izaba iteye.

[9] There are smart cards with batteries; however, such models are more costly, thus circumventing accessibility in other ways.

2. Guteza imbere guhanga udushya no guhangana ku isoko

Akamaro ka CBDC gashingiye mu gukemura ibibazo bihari ubungubu (cyane cyane urwego rudashimishije rw'ihangana ku isoko) ariko ikazanafasha mu guteza imbere ubukungu bushingiye ku ikoranabuhanga. Uburyo bwo kwishyurana hakoreshejwe ikoranabuhanga mu Rwanda bugizwe cyane cyane no kohererezanya amafaranga hakoreshejwe uburyo bwa telefoni igendanwa (Mobile money) aho 70 ku ijana y'ubwishyu bwose bwakozwe muri 2022 bukoreshejwe ikoranabuhanga ugereranyije n' uruhare ruto rwa serivisi zo kwishyurana hakoreshejwe ikoranabuhanga zitangwa na banki. Kwishyura abacuruzi hakoreshejwe telefoni n'amakarita ya banki bingana na 27 ku ijana naho 3 ku ijana gasigaye kakaba gahagarariye ubundi buryo bwose busigaye bwakoreshejwe mu kwishyurana hakoreshejwe ikoranabuhanga; bikaba bishimangira ko kohererezanya amafaranga hakoreshejwe uburyo bwa telefoni igendanwa[10] aribwo buryo bukoreshwa cyane kurusha ubundi bwose.

Hari kandi ubuke mu bigo bitanga izi serivisi zo kohererezanya amafaranga (mobile money) aho ibigo MTN na Airtel aribyo bitanga iyo serivisi byonyine mu Rwanda[11]. Ibi bigo kandi biheruka kwemeranya ku imikoranire hagati yabyo bifasha abafatabuguzi babyo kohererezanya amafaranga amafaranga ku giciro gisanzwe nta kindi kiyongereyeho.

Ikoranabuhanga ryo kohererezanya amafaranya ryorohera abarikoresha n'uwashaka kurikoresha. Ku rundi ruhande, kuba ibigo bibiri aribyo byihariye isoko ryose bituma igiciro cyo gukoresha iri koranabunga kiguma hejuru ku bantu ubwabo, abacuruzi n'amasosiyete (Urugero n'uko igiciro ku bacuruzi kingana na 0.5 ku ijana[12]).

Inzego z'ubugenzuzi zishobora gufata imigambi yo kugenzura ibiciro muri urwo rusobe rw'ikoranabuhanga ryo kwishyurana. Iyo migambi ishobora kugirwa n'inama hamwe n'amasezerano hagati yabo n'abashoramari mu rwego rwo

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[10] BNR, Raporo y'umwaka w'ingengo y'imari 2021/2022
[11] ibid
[12] https://www.mtn.co.rw/momo-tariff/

kumenyekanisha imirimo y'ikigo cyaba gishinzwe kurinda ibigo kwiharira isoko ryose mu rwego rwo gushyiraho igiciro kiri hasi. Mu Rwanda, ingingo irebana n'igiciro kishyurwa ku kwishyurana hakoreshejwe ikoranabunga iganirwaho byimbitse mu nama zihuza inzego z'ubugenzuzi n'abatanga servisi zo kwishyurana hakoreshejwe ikoranabuhanga (EMIs).

Hitawe ku bundi buryo buhari ubu ngubu, CBDC yaba igikoresho cyoroheye bose cyasimbura cyangwa cyikiyongera kuri ubwo buryo bundi bityo bigateza imbere ihangana ku isoko bitewe n'uko yaba ihendukiye abaguzi n'abacuruzi. CBDC ishobora gukoreshwa mu bwishyu bwo kuri interineti hamwe no mu koherezanya amafaranga hagati y'abantu babiri hanyuma ikaba yizewe kimwe nk'amafaranga afatika (ibi nukubera ko ari ifaranga ryaba ritangwa na Banki Nkuru). CBDC igomba kugira igiciro kiyemerera kuba yakoreshwa na bose kandi ikaba uburyo buhendutse bwo kwishyura[13]. Iri koranabuhanga ryafasha mu kugabanya igiciro cyashyizweho na EMIs hamwe na abatanga serivisi yo kwishyurana hakoreshejwe amakarita.

Icyerekezo cyo guhuza ubukungu n'ikoranabuhanga bizana ibindi bishya bitari byitezwe, urugero ni kohererezanya amafaranga hagati yaza mudasobwa muri urwo rusobe rw'ikoranabuhanga cyangwa uburyo bwokwishyurana. Kwiharira hagati y'ibigo bibiri bitanga izi serivisi zo kohererezanya amafaranga bivamo ubushake bucye mu guteza imbere uburyo bwo kwishyurana bushya. Ibi biterwa n'uko nta gitutu cyo kuzana uburyo bushya kiba kiri ku bigo byihariye isoko[14].

Tugendeye ku isuzuma ryakozwe na Banki ya Canada[15], CBDC yateza imbere imikoranire n'ihangana risesuye mu rusobe rw'ikoranabuhanga mu buryo bubiri:

- CBDC yakongera imikoranire n'imibereho myiza ugereranyije binyuze mu kwemerera amasoko, abatanga serivisi, imikoreshereze n'imikorere bishya.

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[13] The Positive Case for a CBDC. Bank of Canada Staff Discussion Paper/Document d'analyse du personnel — 2021-11.

[14] Monopoly and the Incentive to Innovate. When Adoption Involves Switchover Disruptions. Federal Reserve Bank of Minneapolis

[15] The Positive Case for a CBDC. Bank of Canada Staff Discussion Paper/Document d'analyse du personnel — 2021-1

- CBDC ishobora kugabanya igihombo binyuze mu gukumira ikoreshwa nabi ry'ububasha rifitwe ku isoko no kwirinda ibyatuma kwishyurana bidakorwa neza ku masoko mashya nk’uko bibaho mu buryo bwagenewe kwishyurana hagati y’abantu babiri cyangwa barenze igihe kimwe cyangwa byinshi mu bisabwa byuzuye.

Uburyo bumwe CBDC yashyigira ihangwa ry’udushya mu bukungu bushingiye kwikoranabuhanga ni ugushyigikira ubwishyu bukozwe na za porogaramu zishyura. Leta y’u Rwanda ishobora gukoresha ikoranabuhanga rya CBDC nk'umuyoboro wo kwishyura inguzanyo n'ubundi bwishyu bukorwa na leta ku muntu (G2P) mu buryo bwisesuye[16].
Birakwiye ko tumenyako hari itandukaniro hagati y’uburyo bw’amafaranga y’ikoranabuhanga n’uburyo bworohereza abntu guhuza konti nyinshi, bivuze ko imiterere n’ishyirwa mu bikorwa ritandukanye[17]. Ubu buryo bwa mbere bw’amafaranga y’ikoranabuhanga (pogrammable money) aba afite amategeko areba uyafite. Aya mategeko ashobora kuba avuga igihe ayo mafaranga azatera agaciro cyangwa ibyo yayaguramo bizwi neza. Ibi bifite amategeko byagonga kandi byagora ikoreshwa rya CBDC muri rusange. Naho uburyo bwa kabiri bujyanye no korohereza abantu guhuza konti nyinshi (programmable payments) bwo, burebana no kohereza cyangwa kureka kohereza amafaranga iyo ibisabwa byujujwe. Ibi bishobora kugira n’umubare w’amafaranga utemerewe kurenzwa mu munsi cyangwa ubwishyu bukunda gukorwa busanzwe ushobora gushyiraho kugirango wishyure abandi bantu, amashyirahamwe cyangwa kwimurira kuri konti zawe. Izi gahunda zigira inyungu nyinshi nko kuzana imirimo, uburyo bwo gukora, n’imikorere y’ubucuruzi bukoreshejwe ikoranabuhanga bishya bidateje ingaruka ku miterere y’ifaranga ubwaryo.

CBDC ishobora kuba urubuga rufunguye kandi rwemerera ba rwiyemezamirimo batanga serivisi z’ubwishyu. Iyi moderi igomba kuba yorohera abashaka bose gutanga serivisi z’ubwishyu nshya kwinjiramo. Uru rubuga rwatanga ububasha

[16] S. Allen, S. Capkun, I. Eyal, G. Fanti, B. Ford, J. Grimmelmann, A. Juels, K. Kostiainen, S. Meiklejohn, A. Miller, E. Prasad, K. Wüst und F. Zhang, „Design choices for Central Bank Digital Currency: Policy and technical considerations,“ Global Economy and Development at Brookings, 2020.
[17] Alexander Lee, “What is programmable money?”, 2021

bwo kugera kuri sisitemu nyirizina kugira ngo ba rwiyemezamiriimo ndetse n'urusobe rw'abakora mwikoranabuhanga babe babasha kwandika porogaramu zigendena na CBDC bityo isoko ryose ritere imbere.

3. Kugira uruhare mu kugera ku cyerekezo cy'iterambere ry'ubukungu buzira gukoresha kashi mu kwishyurana

N'ubwo ihungabana rikomeye ry'ibikorwa by'ubukungu byatewe n'icyorezo cya COVID19, amafaranga m'ubukungu yakomeje kugenda yiyongera hagati ya Kamena 2019 - Kamena 2022[18] aho amafaranga hanze y'amabanki ari muri cyegeranyo cya M1 yerekanye imizamukire ikurikira:

Kamena	2019	2020	2021	2022
Amafaranga ari hanze ya banki nkuru y'u Rwanda (muri miliyoni y' amafaranga y'u Rwanda)	201,276	229,729	253,725	304,990
Ubwiyongere ku ijana		14.14 ku ijana	10.45 ku ijana	20.21 ku ijana

Urebye iyi mibare, ubwiyongere bw'amafaranga yose ari hanze y'amabanki hagati ya Kamena 2019 - Kamena 2022 yari 51.53 ku ijana. Ibi kandi birerekana ko uburyo bwo kwishyurana hakoreshejwe ikoranabuhanga, harimo gukorsha uburyo bugendanwa, bitatanze igisubizo cyiza mu kugabanya gushaka kashi bityo bikaba bitaragize uruhare runini mu kugera ku ntego zo kudakoresha kasha m'ubukungu bw'u Rwanda. Nyamara, ubushakashatsi bwakozwe mu rwego rwa Finscope (2020) bwerekanye ko 58 ku ijana gusa bafite konti mu ikoranabuhanga kandi bazikoresheje nibura inshuro eshatu cyangwa zirenga buri kwezi, 23 ku ijana bazikoresha rimwe cyangwa kabiri mu kwezi naho 17 ku ijana bazikoresha gake cyane[19]. Ibi birerekana ko ibipimo byo kwiyandikisha mu ikoranabuhanga rigendanwa bidasobanura byanze bikunze ko rikoreshwa.

[18] BNR Annual Report 2021/2022
[19] FinScope Rwanda Survey 2020

Raporo ngarukamwaka ya Banki Nkuru y'u Rwanda yerekana kandi ko "Agaciro ko kubikuza amafaranga ya kashi m'umusaruro mbumbe binyuze ku ikoranabuhanga ryo ku mamashini abikurizwaho azwi nka ATM n'abakozi bazwi nka agents, kagabanutse kuva kuri 84 ku, muri Kamena 2021 bigera kuri 72 ku ijana, muri Kamena 2022''. N'ubwo bimeze bityo ariko, iyo 72 ku ijana iracyari hejuru kandi iragaragaza ko hagikenewe amafaranga ya kashi menshi mu buryo butandukanye.

Byongeye kandi, ukurikije raporo y'umwaka wa 2021/2022 ya Banki Nkuru y'u Rwanda, amafaranga ya kashi yose yabikijwe yiyongereyeho 70.23 ku ijana mu gihe mu gihe kubikuza amafaranga ya kasha byiyongereyeho 70.02 ku ijana. Raporo yerekana kandi ko agaciro k'amafaranga ari hanze y'amabanki kiyongereyeho 18.84 ku ijana mu gihe gutunganya amafaranga ya kashi byo byiyongereyeho 79.53 ku ijana. Imibare nk'iyi yerekana kwiyongera kw'ikiguzi cyo gutunganya amafaranga ya kashi. Ibi ntibigaragaza gusa amafaranga yatanzwe mu gutunganya amafaranga ya kashi ariko kandi yemeza ko muri icyo gihe habaye itangizwa rya CBDC, uburyo, hamwe n'ahantu hizewe umutekano wo kubika bitazagira uruhare mu rusobe rwa CBDC bitewe n'imiterere y'ikoranabuhanga ryaryo.

Ikiguzi cyo gukora, gutanga no gutunganya amafaranga cyageze ku madolari y'Amerika angana na 30.199.673 USD muri 2018-2022 bikaba biteganijwe ko azagenda yiyongera akangana na US $ 5.141.578 mu myaka itanu iri imbere. Hejuru y'ibi bice bifite ikiguzi, Banki Nkuru y'u Rwanda ishobora gukenera gukemura ibijyanye n'ikiguzi cyangwa ikindi kiguzi cyinyongera, nk'igisohoka kijyanye no gucunga amafaranga, hamwe n'ibijyanye n'amasoko. Byongeye kandi, amafaranga yo gusya inoti zishaje bisaba ishoramari rikomeye mumashini zisya kandi bijyana n'ikiguzi cy'ibikorwa hamwe n'ubuyobozi.

Ibikorwa	Ikiguzi (mu madolari) mu myaka itanu (5) ishize	Ikiguzi giteganijwe (mu madolari) mu myaka itanu (5) iri imbere
Gukora no gushyira ifaranga m'ubukungu	29,021,282.94	32,000,000
ISCO gutunganya amafaranga (kubara no kujonjora)	-	1,400,000
Ikiguzi cyo gufata neza amamashini	1,178,390	1,941,251
Igiteranyo	30,199,673	35,341,251

Twakwibutsa ko kubera gukoresha amafaranga ya kashi menshi, Banki Nkuru y'u Rwanda nayo ikeneye gushora imari ihagije mubikorwa remezo byo gucunga amafaranga ya kashi, ibyo bikaba byiyongera kukiguzi. Imicungire y'amafaranga ya kashi yiyongeraho ikiguzi cyo ku rwego rw'umuyoboro w'abafatanyabikorwa.

Ku mabanki y'ubucuruzi ikiguzi cy'ingenzi gituruka mu bikoresho, nko kohereza amafaranga hagati ya Banki Nkuru y'u Rwanda n'amashami yayo ndetse no guhererekanya hagati y'amashami yayo, cyangwa gushyira amafaranga ya kashi mu mamashini y'ikoranabuhanga ATM n'ibijyanye no gutanga serivisi. Nk'uko ubushakashatsi bwakozwe n'ikigo cya McKinsey bubitangaza, ikiguzi cy'amafaranga ya cash gishobora kugera kuri 5-10 ku ijana y'ikiguzi cy'amafaranga banki zikoresha[20].

N'ubwo hakiri kare kugereranya ikiguzi cy'CBDC y'u Rwanda (CBDC), nk'urugero mu bijyanye no gushyira mu bikorwa, uburezi, no kuzamurwa mu ntera, biteganijwe ko gushyiraho CBDC y'u Rwanda bishobora kugabanya cyane amafaranga ari m'ubukungu hamwe n'ikiguzi bifitanye isano

[20] Fintech in Africa: The end of the beginning. McKinsey. August 30, 2022 | Report.

n'abafatanyabikorwa bose kuko ikwemera ifaranga-koranabuhanga ryiyongera uko ibihe bigenda bisimburana. Umubare w'amafaranga ari m'ubukungu bw'igihugu wazagabanuka mu gihe gicirirtse kugeza igihe kirekire uhujwe na n'ishyirwa mu bikorwa igihe cyagenwe CBDC y'u Rwanda. CBDC y'u Rwanda (CBDC) rishobora kuba ifaranga ryasimbura gukoresha kashi, itanga ibisubizo byihuse no kubona amafaranga ku buryo butaziguye.

Ikiguzi nyacyo n'igiciro cya CBDC y'u Rwanda byagombye gusuzumwa byimbitse mu bushakashatsi butandukanye. Biragaragara ko ikiguzi cyo kubungabunga CBDC ugereranyije n'uko bikorwa kuri kashi kitarenga icyo gucunga amafaranga ya kashi, kubera ko CBDC ari ifaranga ritagaragara ugereranije n'amafaranga ya kashi afatika asaba urusobe rw'imashini n'umwanya.

Hashingiwe ku cyemezo cya BNR na Minisiteri y'Imari n'Igenamigambi ry'ubukungu (MINECOFIN) cyo gushishikariza abaturage bose b'u Rwanda gukoresha uburyo bwo kwishyurana hakoreshejwe ikoranabuhanga, Banki Nkuru y'u Rwanda ishyira imbere icyafasha kugabanya amafaranga ya kashi akoreshwa mu gihugu. Iryo faranga rya CBDC, ryaba intandaro yageza igihugu ku ntego yo kuba sosiyete idakoresha amafaranga ya kashi. Amafaranga macye ari mu bukungu yagabanya ikiguzi kuri Banki Nkuru y'u Rwanda n'abafatanyabikorwa bayo bose. Ibi kandi bishobora kugira uruhare mu kuzamura ubukungu bwemewe mu gihungu, bikaba byavamo inyongera mu misoro ndetse n'andi mafaranga yinjizwa na Leta. N'ubwo bigoranye kumenya imibare ya nyayo cyangwa ikigereranyo cya nyacyo cyava muri uyu mushinga wa CBDC kubera ubushakashatsi bukiri bushya, (ntibyatubuza kwemeza izi ngingo zavuzwe hejuru kuko zakuwe mu bushakashatsi bwo gukoresha CBDC nk'ifaranga-koranabuhanga).

Izi ngingo zemejwe n'inyandiko yasohowe na BIS mu mwaka wa 2022 isuzuma CBDC uko yari ihagaze muri Africa[21]. Iyi nyandiko yagaragaje ko indi mpamvu yatuma hatangwa CBDC ari ukubera ikiguzi gito giturutse ku mafaranga

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[21]Central bank digital currencies in Africa (bis.org)

macye/kashi yaba akoreshwa hanze ya banki. Iri gabanuka ry'ikiguzi rifitanye isano no gukora, gutwara no kubika inoti n'ibiceri. Ibihungu bifite (more cash circulation), cyane cyane muri Afurika, nibyo byagira inyungu nyinshi mu kugabanya ikoreshwa rya kasha. Kuri Banki nkuru za Afurika (kugabanya ikiguzi cyo gutanga amafaranga) ni impamvu ikomeye cyane kurusha izindi (48 ku ijana y'ibisubizo byatanzwe)."

Inyongera y'inyungu mu kugabanya amafaranga aba azenguruka mu ntoki yaterwa no kuzana CBDC yaboneka nyuma y'igihe gihamye. Banki Nkuru nyinshi zo ku Isi zashyizeho gahunda y'imyaka myinshi yo gushyira mu bikorwa CBDC izakurikizwa mu gihe gipanzwe neza no kumenyekanisha CBDC gahoro gahoro mbere y'uko CBDC ishyirwa hanze bisesuye. Nyuma bizasaba igihe kugira ngo ikoreshwa rya CBDC rigere aho rizagabanya amafaranga yo mu ntoki ku kigero kigaragara. Ikoreshwa rizagenwa n'amahame ya Banki Nkuru y'u Rwanda ajyanye n'imiterere ya CBDC ku bijyanye n'ibikenerwa kugira ngo ikoreshwe (KYC) ndetse n'umubare ntarengwa wa CBDC wemerewe gutungwa hamwe n'umbare ntwarengwa wo kohereza no kwakira iryo faranga byibura mu cyiciro cy'ibanze cy'ikoreshwa rya CBDC. Bitewe n'izi mpamvu zose zishingiye ku gihe hamwe n'uko ubushakashatsi bwa Banki Nkuru y'u Rwanda bukiri mu ntangiriro biragoranye kumenya ikigereranyo cya nyacyo cy'icyo twakwitega. Ibi ni nako bimeze kw'Isi yose aho nta bushakashatsi kuri CBDC ndetse n'ubw'ibigo by'imari mpuzamahanga bwatanga ikigerereranyo ku byava mu bushakashatsi nkubwo.

4. Guteza imbere serivisi yo kwishyurana byambukiranya imipaka ikihuta, igahenduka, igatangwa mu mucyo kandi ikagera kuri buri wese

Kohereza amafaranga hagati y'ibihugu ni igikorwa cyo kohereza amafaranga aho uyohereje n'uyohererezwa bari mu bihugu bitandukanye. Uuwohereje amafaranga n'uyakiriye bashobora kohereza cyangwa kwakira amafaranga atandukanye ariko ibi si ihame. Kohereza amafaranga hagati y'ibihugu bifite akamaro kenshi harimo: ubukerarugendo, ubucuruzi bwambukiranya imipaka n'ibindi byinshi[22].

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[22] Financial inclusion across borders with retail Central Bank Digital Currencies. Whitepaper by G+D

Tugendeye ku nyandiko yateguwe n’Ubufatanye ku bumenyi ku isi hose ku bimukira n'iterambere muri Banki y'Isi[23], amafaranga yoherezwa mu bihugu byo munsi y’ubutayu bwa Sahara yazamutse ku kigero kinini (14.1 ku ijana) cya miliyari 49 z’amadolari ya Amerika mu 2021, nyuma yo kugabanuka ku kigero cya 8.1 ku ijana muri 2020. Muri 2022, inshuro amafaranga yoherezwa muri Africa yo munsi y’ubutayu bwa Sahara yazamutseho 7.1 ku ijana.

Igiciro ku mafaranga yoherezwa muri Afurika yo munsi y’ubutayu bwa Sahara gikomeje kuba hejuru. Urugero, igiciro cyo kohereza amafaranga muri Uganda angana n’amadolari 200 y’Amerika avuye muri Tanzania ni 29.7 ku ijana. Kohereza amafaranga mu Rwanda avuye muri Tanzania biri mu nzira 3 zihenze muri iyo serivisi[24].

Abimukira mpuzamahanga mu Rwanda bagize 0.7 ku ijana y’abaturage bose[251]. Benshi muri abo bimukira baturuka mu bihugu by’abaturanyi aho 43 ku ijana bava muri Republika Iharanira Demokarasi ya Congo, 31 ku ijana bava muri Tanzania, 14 ku ijana bava mu Burundi, 11 ku ijana bava muri Uganda naho 1 ku ijana bakava mu bindi bihugu bisigaye bya Afrika[26]. Abimukira bo mu gihugu hagati bangana na 11.5 ku ijana y’abaturage bose b’u Rwanda[27]. N’ubwo umubare w’abimukira ari muto, abantu bafite cyangwa barengeje imyaka 18 bangana na miliyoni 3.2 (45 ku ijana) bakiriye cyangwa boherereje amafaranga abantu batuye mu bindi bihugu. Uburyo bwo kohereza amafaranga bukunze gukoreshwa cyane n’uburyo bwemewe bw’ikoranabuhanga ariko haracyariho abantu bakiriye amafaranga mu ntoki anyuze kuri bene wabo cyangwa kuri bo ubwabo.

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[23] Migration and Development Brief 36 – A War in a Pandemic: Implications of the Ukraine crisis and COVID-19 on global governance of migration and remittance flows, May 2022. KNOMAD, the Global Knowledge Partnership on Migration and Development for the World Bank.
[24] Ibid

[25] Rwanda Household Survey2019/2020.
[26] Third Integrated Household Living Conditions Survey.
[27] Rwanda Household Survey2019/2020.

Ibmaze kuvugwa hejuru birebena n'ibihugu bigize umuryango w'Afurika y'iburasirazuba. Ishyirwaho ry'Ubumwe bw'Afurika y'I Burasirazuba (East African Monetary Union) ni intambwe y'ingenzi mu gushyiraho ifaranga rimwe muri ibyo bihugu.

Mu twego rwo korshya ibikorwa byo kwishyurana byambukiranya imipaka, "RIPPS" ihuzwa n'imbuga zo kwishyurana zo mu karere ndetse n'iz'isi yose binyuze muri "Rswitch", MasterCard na Visa kugira ngo kwishyurana mu buryo bw'ikoranabuhanga byemere. Kohereza amafaranga hagati y'ibihugu hakoreshejwe ikoranabuhanga cyangwa se kuri telefoni igendanwa bikomeje gufata indi ntera binyuze mu bwumvikane hagati y'ibigo by'itumanaho cyangwa ihuriro ryo mu karere ku bijyanye n'amafaranga (MFS Africa and Thunes).

Ifaranga ikoranabuhanga (CBDC) rikoreshejwe mu bucuruzi hagati y'ibihugu ryafasha mu kugabanya ibiciro biri hejuru ndetse rikaba ryanakemura amakimbirane ajya avuka. Mu gushaka igisubizo kiboneye imikoranire nk'iyo, uburyo butandukanye bwo guhuza imikorere ya CBDC bushobora gukoreshwa:

1. Uburyo bw'imikorere bwatanzwe na Banki Mpuzamahanga yo Kwishyurana (BIS)[281] bushobora kwemerwa n'amategeko yashizweho n'Ubumwe bwa Afrika y'Iburasirazuba mu bijyanye n'ifaranga, aho Banki Nkuru yaba itanga iryo faranga yafata inshingano zo gutanga serivisi rusange, bikemerera CBDCs zo mu gihugu gukorana bitabaye ngombwa ko Banki Nkuru izikoramo zose. Cyangwa gahunda z'ibihugu byombi zishobora gushyirwaho n'umuhuza kuri buri umwe.

   CBDC (CBDC) imwe ihuriweho n'ibihugu byose biba mu muryango w'ibihugu by'Afurika y'iburasirazuba ikaba yajya itangwa na Banki Nkuru y'Afurika y'iburasirazuba cyangwa na Banki Nkuru z'ibihugu yakoroshya ubu buryo bwavuzwe hejuru kubera guhindura amafaranga bitaba bikibayeho. CBDC ishobora gushyigikirwa n'imitungo ya Banki Nkuru zitabiriye icyo gikorwa. Igice

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[28] Options for access to and interoperability of CBDCs for cross-border payments, Report to the G20, July 2022.

cy'ayo mafaranga cyaba gishyigikiwe cyagaragazwa hashingiye ku bucuruzi bwo mu mahanga, umusaruro mbumbe w'ibihugu byitabiriye cyangwa se ibindi bipimo bifatika. Bitewe n'uko invunjisha (foreign exchange) yaba imwe mu mbogamizi zikomeye cyane mu gushyiraho CBDC ihuriweho n'ibihugu byo mu karere kamwe, CBDC ishingiye ku ifaranga rimwe yaba ingirakamaro mu kugera ku masoko mpuzamahanga y'ivunjisha ry'amafaranga y'amanyamahanga.

2. Ikindi twagarukaho ni ugushyiraho amahame rusange agena za CBDC zo mu gihugu. Ibi byafasha ba rwiyemezamirimo bakwitabira kugera kuri za sisitemu za CBDC zo mu bindi bihugu yaba mu buryo buziguye cg butaziguye bityo bikabemerera kuba bakora ubwishyu bwambukiranya imipaka. Ifaranga-koranabuhanga rimwe ryafasha bidasubirwaho mu gushyira mu bikorwa ibi byavuzwe.
3. Iterambere ry'ubufatanye mu bukungu n'ubufatanye hagati y'ibihugu mu buryo bw' ihuriro mu bijyanye n'ifaranga ryafungururira umuryango ibiganiro bijyanye n'ishyirwaho ry'urubuga rumwe rwa CBDC rwakemerera ubwishyu mpuzamahanga n'iyoherezwa ry'amafaranga hagati y'ibihugu byo mu Karere.

N'ubwo nta CBDC ikoreshwa mu bucuruzi hagati y'ibihugu iri gukoreshwa ubu ngubu ku buryo yakorerwaho ubushakashatsi bujyanye n'inyungu yayo ugereranyije n'ubundi buryo buhari ku isoko, imishinga ya CBDC yambukiranya imipaka itandukanye yatanze umusaruro ukomeye. Urugero, umushinga wa Icebreaker[29] (Bank of Israel, Norges Bank, Sveriges Riksbank) wemeje ko guhuza CBDC zitandukanye byakorwa hakoreshejwe uburyo bw'gishushanyombonera aho dufite igikoresho cyo hagati gihujwe n'ibindi bikoresho byinshi. Umushinga uyobowe na BIS witwa mBridge[30] (Bank of Thailand, Hong Kong Monetary Authority, People's Bank of China, Central Bank of the United Arab Emirates) wagaragaje ko CBDC zigabanya igiciro cyo kwishyurana hagati y'imipaka ku kigero cya 50 ku ijana ugereranyije n'uburyo busanzwe bwo kwishyurana. Umushinga Jasper-Ubin[31] (Bank of Canada,

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[29] Project Icebreaker: Breaking new paths in cross-border retail CBDC payments (bis.org)
[30] Connecting economies through CBDC (bis.org)

[31] Jasper-Ubin-Design-Paper.pdf (mas.gov.sg)

Monetary Authority of Singapore) yagaragaje ko habaho koherezanya hagati y'ibihugu, hagati y'amafaranga ndetse hagati y'imbuga zitandukanye hadakenewe umuhuza. Umushinga wa Inthanon-LionRock [32] (Bank of Thailand, Hong kong Monetary Authority) werekanye ko igabanuka mu biciro ryagerwaho hifashishijwe umutekano w'ikoranabuhanga binyuze mu gukora amasezerano meza.

Igitekerezo nyamukuru ni uko mu gutanga CBDC byatuma Banki Nkuru y'u Rwanda neza mu gihe yatekereza gukorana n'izindi Banki Nkuru zo mu karere cyangwa se izo kw'isi yose mu mishanga yambukiranya imipaka ya CBDC. Byagorana kuvuga ko CBDC itagira uruhare muri serivisi yo kohererezanya amafaranga mu Rwanda bitewe n'ibiciro bisanzwe biri hejuru ndetse n'imbaraga mpuzamahanga zashyizwe muri urwo rwego.

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[32] Project Inthanon-LionRock (hkma.gov.hk)

6. Ingorane ikoreshwa rya CBDC mu Rwanda rishobora guhura nazo

Muri rusange, ubushakashatsi bwagaragaje ingorane cumi n'ebyiri zugarije ishyirwaho n'ikoreshwa ry'ifaranga-koranabuhanga (CBDC) mu Rwanda zakwitabwaho na Banki Nkuru y'u Rwanda (BNR) ikwiye gusuzumana ubushishozi. Izo ngorane, zirangwa n'imbogamizi zifite ubukana buremereye n'ubushobozi buke bwo kuzikumira, ni zo zivugwa mu gice gikurikira.

1. Ikoreshwa rya CBDC n'abaturage

Igihe hatazaba harakozwe igeragezwa rifatika bizaba bigoye kumenya ubwuzu n'ubwitabire bw'abaturarwanda mu gukoresha CBDC. Bigenze bityo, biragoye kugaragaza umubare w'abaturage bashobora kuzaba bakoresha CBDC igihe hafatwa icyemezo cy'ikoreshwa ry'ifaranga-koranabuhanga ku rwego rw' igihugu.

Uburyo bwo kwishyurana bukoreshwa n'abaturarwanda kurusha ubundi ni ukwishyurana hakoreshejwe telefoni. Mu mwaka wa 2022, ikoreshwa rya telefoni mu koherezanya amafaranga ryiyongereho 60 ku ijana, riva kuri miliyoni 23 rigera kuri miliyoni 382. Amafaranga yahererekanyijwe hakoreshejwe telefoni yazamutseho 61 ku ijana ava kuri miliyari Frw 5,208 agera kuri miliyari Frw 8,409, hagereranyijwe n'umwaka wa 2021[33].

Kubera iyo mpamvu, guhindura uburyo bwo kwishyura abaguzi basanzwe bamenyereye hagatangizwa ubundi bushya nka CBDC bishobora kuzasaba izindi mbaraga zo kubusakaza no kubukundisha rubanda. Birasaba ko CBDC yasobanurirwa rubanda mu buryo bworoshye kumva kandi buhagije (urebye kugeza ubu, abantu benshi m'u Rwanda bageze ku myaka y'ubukure ntibasobanukiwe bihagije ku bijyanye n'imikorere y'abatanga serivisi z'imari, harimo no kudahabwa amakuru yuzuye ku bijyanye n'ibikorwa cyangwa serivisi z'imari)[34].

[33] Monetary policy and financial stability statement. March 2023.
[34] FinScope Rwanda Survey 2020.

Gukumira imbogamizi zo kutitabirwa biragoye. CBDC yakagombye kuzaba ikora[35] mu buryo butagonganisha abarikoresha kandi rihuriza hamwe bisesuye ibiranga amafaranga yose yaba ay'inzego zigenga n'iza Leta. Ubundi buryo bwakoreshwa ni uko CBDC yakwigana itangwa rya serivisi zo kwishyurana hakoreshejwe telefoni. Ibi ariko bisaba kubanza gubisesengura bihagije, hirindwa ko BNR yagaragara nka mukeba wa EMIs.

Hatabayeho ihuzamikorere ryo mu rwego rwo hejuru, bishobora kuzaba bihenze kandi bikazagora rubanda n'abacuruzi kuzemera gukoresha CBDC byafasha kugabanya ikoreshwa rya kashi.

Ingamba za Leta zigamije kuzamura iyishyurana hagati ya Leta na rubanda (G2P) no hagati ya rubanda na Leta (P2G) nizo zashobora guzateza imbere ikoreshwa rya CBDC kurusha ubundi buryo bushoboka. Izindi ngamba zaba: imikoranire inoze aho inzego z'imari/imiyoboro y'itumanaho rya telefoni (FSPs/MNOs) yakongera inyungu ishingiye ku mubare mwinshi w'ibikorwa, bikazagenda bizamura buhoro buhoro ubwitabire bw'abacuruzi mu ikoreshwa rya CBDC. Izo ntambwe zagenda ziterwa zashyirwa muri gahunda y'igenamigambi y'ikoreshwa rya CBDC.

2. Ikoreshwa rya CBDC n'abatanga serivisi z'imari n'abacuruzi

Ikoreshwa ry'uburyo bwose bushya bwo kwishyurana rigomba gukorwa buhoro buhoro, kandi rikanasaba kujyana n'ingamba zo kurikwirakwiza kimwe n'ishoramari rikenewe. Amasosiyete amwe, harimo na Google, akora bene iryo shoramari agaha abarikoresha amafaranga yo gushyiraho no gukoresha ikoranabuhanga rishya kuri telefoni.

Isoko ryo kwishyurana mu Rwanda ryiganjemo kwishyurana hakoreshejwe telefoni. Abafite imiyoboro y'itumanaho rya telefoni bashoye ingufu n'amafaranga menshi, by'umwihariko mu iterambere ry'ibikorwaremezo kugira ngo ikoreshwa rya telefoni mu itumanaho rishobore kuba uburyo rusange bw'ikoranabuhanga mu kwishyurana.

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[35] The meaning of this word relates to the amount of actions that a user must perform to access a CBDC Wallet.

Kuva muri Mutarama 2021 kugeza mu Mutarama 2022, umubare w'imashini zakira amafaranga mu kwishyurana ziyongereyeho 211 ku ijana ziva kuri 45,739 zigera kuri 142,351. Iri zamuka rikomoka ku bikorwa by'imenyekanisha n'iyoroshwa ry'uburyo bwo kwakira abacuruzi bashya. Umubare w'intumwa z'ibigo bitanga serivisi zo kwishyurana hakoreshejwe telefoni wazamutseho 21 ku ijana, uva kuri 124,373 ugera ku ntumwa 150,767[36].

Hakenewe gushyirwaho uburyo bundi bw'imikorere bwafasha mu gukumira izo ngorane, Ubwo buryo bukaba bunifitemo imiyoboro mishya y'amafaranga no kubonera igisubizo abagerwaho n'ingaruka z'ishyirwa mu bikorwa ryayo. Ariko ni ngombwa gusobanukirwa ko gushyiraho CBDC nk'ifaranga koranabuhanga ridafite ikiguzi ku urikoresha bishobora gutuma abatanga serivisi z'imari batitabira CBDC.

Abacuruzi bari bakwiriye kuba ku ruhembe rw'ikoreshwa rya CBDC. Kugira ngo bishoboke, bagakwiye gukangurirwa kwemera kwishyurwa hakoreshejwe CBDC niyo yaba itaremerwa gukoreshwa ku rwego rushimishije.

Ubufatanye hagati y'urwego rw'abikorera n'urwa Leta ni ngombwa, urugero rukaba uruhare rw'abatanga serivisi z'imari mu gukwirakwiza amafaranga ya Leta.

[36] Monetary policy and financial stability statement. March 2023.

7. Ibyakwitabwaho mu miterere ya CBDC y'u Rwanda

Kugira ngo hasuzumwe uburyo bwo gutangira gukoresha CBDC mu Rwanda, imiterere ya CBDC igomba kwitabwaho. Hari ingingo nyinshi zigomba kwitabwaho muri urwo rwego. Iki gice kirerekana imirongo migari ngenderwaho kimwe n'urutonde rw'ubundi buryo bunyuranye bwakoreshwa.

1. Ibirango bya CBDC byo ku rwego rwo hejuru

Uburyo bwo kuyikwirakwiza

Ibyifuzwa	Ubundi buryo
Ihererekanya ry'inzego ebyiri riziguye	Ihererekanya ry'urwego rumwe cyangwa ebyiri

Hari uburyo bwemewe ku isi hose mubyanditswe ndetse no mu bikorwa ko ihererekanya rifite inzego ebyiri ali ryo ryiza kurusha irifite urwego rumwe kuko rifite ingaruka zoroshye zahungabanya urwego rw'imari ruriho. Abatanga Serivisi z'Imari bagira uruhare rungana n'urwo bafite ubu mu buryo bwo guhererekanya amafaranga. Dushingiye ku bisubizo by'Isesengura ry'Abahuriye kuri iki gikorwa, ikifuzo cya benshi ni uko Banki Nkuru y'u Rwanda aliyo yonyine yasohora amafaranga y'ikoranabuhanga,ali cyo kandi gituma inzira (model) iziguye aliyo ishyirwa imbere. Hakurikijwe amategeko, byatekerezwaho ko Banki Nkuru y'u Rwanda yakwemerera inzego z'imari zitari amabanki zakoresha amafaranga y'ikoranabuhanga.

Uko yagerwaho

Ibyifuzwa	Ubundi buryo
Kugerwaho bisesuye	Kugerwaho bidasesuye

Kutagerwaho bisesuye bizatuma kugana amafaranga y'ikoranabuhanga bigorana kuko bizabera inzitizi abayakoresha. Cyakora, kugerwaho bisesuye igikorwa kigitangira si ngombwa; byaba byiza ahubwo kubigeraho bigizwe buhorobuhoro. Ibi byafasha kumenyera aya mafaranga, kuyakoresha bigasakara mu buryo

bwitonze. By'umwihariko, kugenza buhoro iki gikorwa, bikemura ikibazo ko abanyamahanga bashobora gukoresha aya mafaranga hanze y'igihugu. Bigitangira, hajya hasabwa indangamuntu imbere mu gihugu kugira ngo umuntu abone amafaranga y'ikoranabuhanga. Bitinze gato, n'abanyamahanga nabo bakwemerwa kubona umubare muto w'aya mafaranga. Mu gihe ibibazo byavuka bitewe no gukoreshwa kw'aya mafaranga n'abanyamahanga, izi ngamba zasubirwamo hanyuma.

Ubuzima bwite

Ibyifuzwa	Ubundi buryo
Kutamenyekana (partial pseudo anonimity) by'igice	Kutamenyekana bisesuye, kutamenyekana by'igice cyangwa kumenyekana bisesuye

Haba kutamenyekana cyangwa se kumenyekana bisesuye, nta na kimwe kitaweho na banki nkuru mu gushyira mu bikorwa umushinga ujyanye na CBDC. Mu gihe, kutamenyekana byatera impungenge ko haba ibikorwa byinshi by'uburiganya, kumenyekana bisesuye nabyo bishobora kubuza isakazwa ry'ayo mafaranga, cyane cyane ku bantu badashaka kumenyekana. Isesengura ryakozwe ryerekanye ko abantu bagishaka gukingira buzima bwabo bwite, bihujwe n'ubushake bwo guhanga udushya byakenera gukoresha amakuru yo ku buzima bwite. Hashobora kugerwaho ubwumvikane bunyuze mu kutamenyekana budasesuye, aho inzego z'ubuzima bwite zakumvikanwaho mu buryo bukwiye. Ikindi gikomeye muri iyi nzira y'imikorere, ni ugutoranya kw'ugura, kuko buri muguzi ashoborqa gutoranya gutanga amakuru menshi kugira ngo agere kuri serivisi ziteye imbere kurusha, birenze kwishyura gusa. Ikindi kandi,iyi nzira y'imikorere,yubahiriza ubuzima bwite bw'abantu ntamakemwa kandi bikanatanga uburyo bwo gukurikirana ibikorwa byo kunyereza amafaranga n'ibyo kurwanya gushyigikira iterabwoba.

Inyungu

Ibyifuzwa	Ubundi buryo
Inyungu zero	Zitanga inyungu, inyungu zo mu byiciro cyangwa inyungu zigabanya (gusa)

N'ubwo isesengura ryakozwe n'abafatanyabikorwa ryerekanye ko rishyigikiye inyungu, ingaruka mbi zatera ihungabana ry'urwego rw'imari no guhererekanya

amafaranga, riratuma tugera ku cyemezo ko amafaranga y'ikiranbuhanga adafatwa ho inyungu, mbese ameze nka (cash), ariyo yaba uburyo bwiza kurusha (preferred approach). Iki nicyo cyemezo cyafashwe na za Banki Nkuru nyinshi. Hari abandi batekereza ko, n'ubwo ubu nta bushake bwo kuriha inyungu ku mafaranga y'ikoranabuhanga, mugihe kiri imbere, hateganywa ko inyungu zarihwa kuri ayo mafaranga.

Imikoranire/interoperability

Ibyifuzwa	Ubundi buryo
Hamwe n'uburyo buhari bwo kwishyura bwa BNR, izindi CBDCs	Ibikoresho bishya bishingiye ku bimenyetso, amafaranga atangwa n'abikorera, amasezerano akoranye ikoranabuhanga cyangwa imikoranire ituzuye. Ibindi bisabwa byatangwa n'isoko.

Urwego rw'imikoranire rwari rugombye gutangwa na Banki Nkuru y'Iu Rwanda kugira ngo byoroshye guhererekanya amafaranga yo muri konti zo mu mabanki n'amafaranga y'ikoranabuhanga, ali bwo buryo bwinganje kw'isoko ubu mu bijyanye no kwishyurana. Gukingira cyane amafaranga y'ikoranabuhanga ntibyatuma abantu benshi bagira ubushake bwo kuyakoresha. Amafaranga y'ikoranabuhanga yari akwiye guhuzwa n'Urwego rw'Igihugu rwo Kwishyura hakoreshjwe ikoranabuhanga, hakoreshejwe imikoranire, serivisi zigera kuri bose, n'urwego rwo kwishyura bidatinze ruhura na za Banki, ibigo by'imari iciriritse (MFIs), SACCO, na za EMI (?).

Ku byerekeye imikoranire n'andi mafaranga y'ikoranabuhanga mu bindi bihugu, ntabwo dushobora gufata icyemezo cya nyuma, kuko ubu nt'ayandi mafaranga y'ikoranarabuhanga ari mu karere twakorana nayo. Cyakora, kugira ngo imikoranire mu minsi iri imbere izashoboke, ni ngombwa ko icyemezo kijyannye n'amafaranga y'ikoranabuhanga gitunganywa bigamije gukorana n'inzego z'amafaranga y'ikoranbuhanga zo mu bindi bihugu.

Byongeye kandi, imikoranire ashingiye ku masezerano akoranye ikoranabuhanga n'ibikoresho bishingiye ku bimenyetso (cyangwa ibiceri, igihe amategeko ku mitungo itagaragara azaba yarashyizweho) yari igombye gushyirwaho n'urwego

rw'ubukungu rw'abikorera, kubera ko hari urwego rurerure rwo kumenyekanisha ibikorwa ruzaba rukenewe bitewe n'umubare wonyine w'imbuga nyinshi zikoresha ikoranabuhanga rinyuranye. Gushyiraho amategeko bigomba kwitonderwa cyane, nko gushyiraho imibare ntarengwa (reba n'igice- gikurikira).

Imibare ntarengwa

Ibyifuzwa	Ubundi buryo
Uburyo bufite aho bugarukira (umubare, igihe, impamvu zindi)	Uburyo budafite aho bugarukira

Bitewe n'impamvu zinyuranye (gukumira uburiganya no gukomeza ukudahungabana k'urwego rw'imari), hakwiye gushyirwaho imibare ntarengwa y'amafaranga y'ikoranabuhanga agomba gutungwa n'abantu ku giti cyabo ndetse n'ibigo bishaka inyungu. By'umwihariko, hali hakwiye kubaho umubare ntarengwa wo gutunga no gukoresha aya mafaranga. Gushyiraho umubare ntarengwa w'umutungo w'aya mafaranga byoroshya kugenzura neza uko yiyongera, iyo ali make kandi bifasha kurwanya kunyereza amafaranga. Ibikorwa bikeneye umubare wisumbuye, bishobora kwongererwa aya mafaranga, nyuma yo kwerekana inyandiko zisobanura impamvu z'ubusabe, cyangwa se nyuma yo gusuzumwa bikomeye n'inzego z'imosoro.

Uburyo bwo kurihwa: ikiguzi cy'ibikorwa n'igiciro ku muguzi

Ibyifuzwa	Ubundi buryo
Bishyirwaho binyuze mu biganiro by'abafatanyabikorwa	Nta kiguzi, ikiguzi ku gaciro k'ibikorwa bimwe na bimwe, cyangwa ikiguzi kuri buri gikorwa kuri CBDC

Banki Nkuru y'Igihugu yari ikwiye kugira inama n'ibiganiro bisesuye hamwe n'abarebwa n'ibikorwa byo kwishyura mu rwego rw'igihugu, kuko uburyo bwo kwisyura buterwa na buri soko, kandi bukaba bwarebwa mu mpande nyinshi kandi mu nzego zinyuranye. Ibi biganiro bigomba gukorwa binyuze mu isesengura ryo kugabana ikiguzi cya CBDC cyumvikanyweho hamwe n'imiterere y'igiciro ku muguzi mu myumvire rusange ko CBDC ari ubundi bwoko

bw'amafaranga kandi ko ari serivisi rusange ikwirakwizwa kandi ikanakorerwa mu rwego rumwe.

Ibiganiro kandi bigomba gukorwa bigamije kutagira uwo bibangamira. Abagira ibiganiro bagomba kumvikana ku ntego y'urwego rw'amafaranga y'ikoranabuhanga azashyirwaho aliko ntahungabanye urwego rwo kwishyura ndetse n'abayakoresha. Ikindi kandi, ibyo biganiro bigomba gushyiraho ikiguzi cyo gukoresha aya mafaranga ku buryo cyakorohereza bene nyir'ayo mafaranga n'abayakoresha. Ntihagomba gusobanurwa gusa uburyo n'igihe abikorera bashobora gusubizwa ikiguzi batanze mu gukoresha amafaranga-koranabuhanga, ahubwo hagomba no kumenyekana urugero n'ukuntu rubanda rwakoresha CBDC. Mu biganiro n'abafatanyabikorwa, byakomojweho ko uburyo bukomeye bwo gushishikariza abantu CBDC ari ugutanga serivisi zakwiyongera kuri sisitemu ya CBDC.

Ikindi kandi, ni uko imiterere y'ikiguzi cya CBDC yari ikwiye gushyirwaho ku buryo bushishikariza abantu kuyikoresha. Nk'urugero, ikiguzi ku mafaranga-koranabuhanga ku bacuruzi cyali gikwiye kuba hasi ugereranije n'ubundi buryo busanzwe bwo kwishyura bikanagera aho iki kiguzi kivaho rwose igihe umubare wumvikanyweho ugezweho n'abayakoresha. Ikindi umuntu yagenderaho ni uko CBDC ikwiye gufatwa nk'ubundi buryo bwiyongereye ku bacuruzi n'abandi bashya bayakoresha mu guherekanya serivisi. Niyo mpamvu kurihwa byari bikwiye gukorwa hakurikijwe ibyiciro byinshi biva kuri serivisi z'imari zajya zitangwa ku buntu hakoreshejwe cyangwa ziyongera kuri CBDC.

Icyavugwa bwa nyuma ni uko uburyo bwo kurihwa buterwa n'ingamba zisesuye za Banki Nkuru zijyanye na CBDC. Umuntu yakwibaza: ese umugambi wa Banki Nkuru y'u Rwanda ni ugukora ku buryo amafaranga y'ikoranabuhanga ari yo yiganza mu bikorwa byo kwishyura cyangwa se irashaka ko aya mafaranga aba ikindi gisubizo cyerekana ko hari ubundi buryo bwo kwishyura muri rusange bunyuze mu ipiganwa mu gutanga serivisi z'ubucuruzi. Ese umugambi ni uwo kurinda abari basanzwe mu rwego rwo kwishyura bagakomeza gukoresha uburyo bwabo busanzwe cyangwa se ni ugushyiraho urwego rushya rw'amafaramga y'ikoranbuhanga rijyanye no guhanga udushya. Ese iyo miterere yo kwishyura,

izafasha za sosiyete z'imari (Fintechs) mu guhanga udushya, ibikorwa bishya, na serivisi nshya ziyongera ku rwego rw'amafaranga y'ikoranabuhanga. Hashingiwe kuri izo ngamba rusange, uburyo bwo kuriha bwari bukwiye gushyirwaho kugira ngo bufashe kugera ku ntego za Banki Nkuru y'u Rwanda.

2. Ibyakwibandwaho mu rwego rw'ikoranabuhanga

Ikoranabuhanga ry'ibanze

Ibyifuzwa	Ubundi buryo
Guhererekanya amakuru	Guhererekanya amakuru ashingiye ku bitabo cyangwa uburyo buvanze

N'ubwo hali biboneka ko hari ubushake buhanitse ku byerekeye guherekanya amakuru ashingiye ku bitabo bya Banki Nkuru (DLT) n'ubushakashatsi buriho ku bijyanye no gushyira mu bikowa bishimishije, gukwirakwiza amakuru bifatwa nkaho ariryo koranabuhanga ryonyine ryafasha kugera ku rwego rwo gutanga umusaruro. Ibyerekeranye no kwirwanaho byakemurwa no gukwirakwiza ikusanyo ry'amakuru mu bigo biyashinzwe. Bigomba kumvikananeza ko guhitamo gukwirakwiza amakuru bidasimbura izindi gahunda.

Uburyo fatizo bwa CBDC

Ibyifuzwa	Ubundi buryo
Bishingiye ku bimenyetso	Bishingiye kuri za konti cyangwa uburyo buvanze

Kugira ngo kwishyurira kuri murandasi byorohe kandi bikorwe mu kanya gato kandi no kugabanya ingorane zituruka ku mikorere y'uburyo buvanze, igisubizo gishingiye ku bimenyetso cyari gikwiye gutekerezwaho. Niba amafaranga y'ikoranabuhanga azakoreshwa muri rusange, ni ukuvaga ko kandi azagerwaho binyuze kuri telefoni zabigenewe, ibisabwa ni uko igisubizo gishingiye ku bimenyetso kizashaka uburyo busa na konti zo muri banki abantu bazajya banyuraho kugira ngo bakore ibikorwa byo kwishyura banyuze kuri murandasi na telephone zabo zabigenewe.

Kuboneka

Ibyifuzwa	Ubundi buryo
Ibikorwa binyuze cyangwa bitanyuze kuri murandasi	Binyuze kuri murandasi gusa

CBDC kimwe n'andi mafaranga asanzwe, yari akwiye kugirwa na buri wese, aho ariho hose, igihe cyose nk'ikintu rusange gitangwa na Banki Nkuru y'Urwanda. Mu gihe za murandasi zitakora mu gihe kirekire cyangwa se kubera kutagera ku mashanyarazi umuriro wabuze, icyo gihe gukoresha amafaranga y'ikoranabuhanga nta kamaro byaba bigifite. Hashyizweho igisubizo gikoresha izo nzira zombi (ni ukuvuga inzira inyuze kuri murandasi) n'itanyuze kuri murandansi (ni ukuvuga ko uwishyura n'uwishyurwa batali ku miyoboro), imbaraga z'urwego rwose rwo kwishyura zishonora kunozwa.

Ibikorwa bikoreshejwe CBDC binyuze kuri murandasi bishobora kwishyurwa ako kanya hagati y'uriha n'urihwa kandi bikandikwa mu bitabo bya Banki Nkuru.

Ibikorwa bitanyuze kuri murandasi ariko bishingiye ku bimenyetso, byakwishyurwa ako kanya igihe ikimenyetso kivuye k'uwishyura kikajya k'uwishyurwa.

Hari ibikoresho bitandukanye (byombi bifasha mu ibikorwa binyuze cyangwa bitanyuze kuli murandasi) byaganiriweho ku isoko cyangwa birimo gukorwa ubu:

1. Amakarita y'ikoranabuhanga: CBDC ishingiye ku bimenyetso ashobora kubikwa ku ikarita bitanyuze kuli murandasi. Izo karita zikoreshwa ku mashini zabugenewe zidakenera murandasi.
2. Ibimenyetso bitekanye biri kuri SIM card cyangwa indi mashini/igikoresho (ibimenyetso bitekanye birimo): CBDC ishingiye ku bimenyetso ishomora kubikwa ku bimenyetso bitekanye biri kuri Sim card cyangwa bifatanye n'ibindi bikoresho. Mu gukoresha ibyo bikoresho (devices), za MNOs aho ziri hose n'abagurisha ibikoresho bagomba kubigiramo uruhare cyangwa se bagahabwa ububasha bwo gushyira CBDC ishingiye ku bimenyetso ku mashini (devices). Kubika ku bimenyetso bifite umutekano (secure elements) bituma ukoresha ibyo bimenyetso (secure elements) ashobora kwishyura akoresheje imiyoboro inyura cyangwa itanyura kuri murandasi.

3. Telefone zigezweho (smart phones), zishobora gukora uburyo (application) bwatuma uzikoresha agera aho amafaranga abitse cyangwa mu bitabo bya Banki. Ntibigomba ibimenyetso bitekanye muri yo igihe cyose hari uburyo bwo kugera ku bitabo bya Banki cyangwa se aho amafaranga abitse.
4. Telefoni zisanzwe (feature phones), zashobora guhuzwa n'indi miyoboro hakoreshejwe ubutumwa bwo mu muyoboro wa USSD bugera kuri sistemu y'aho amafaranga abitse. Ibi byasaba guhuza telefoni n'ibyuma bibika amakuru kuri CBDC. Ikindi kandi, ni uko bishoboka ko telefoni zisanzwe zishobora gukoresha Sim cards zirimo CDBC ishingiye ku bimenyetso kandi zemera byombi murandasi n'ibikorwa bya CBDC bishingiye ku bimenyetso bitekanye bigatuma ibikorwa bijyanye na CBDC bishoboka binyuze cyangwa bitanyuze kuri murandasi.

Guteganya uko CBDC yakoreshwa (programmability)

Ibyifuzwa	Ubundi buryo
Uburyo bufunguye	Uburyo bufite aho bugarurikira

Ibyiza byo gushobora guteganya uko CBDC yakoreshwa igihe bishoboka bigafasha mu guhanga udushya birenze ibibazo byavugwa birebana n'ubuzima bwite n'umutekano. Gukomeza ibikorwa harimo n'uko byakongerwa kuri gahunda igihe aricyo cyose byatekerezwaho by'agateganyo; cyakora, ubushakashatsi bundi ku bakoresha serivisi bwari bukwiye gukorwa kugira ngo hasuzumwe neza ingaruka ku bazakoresha izi serivisi. Ibi bigomba kwitonderwa kubera impungenge zjyanye n'umutekano n'ubuzima bwite, indi mpamvu kandi ni uko kugeza ubu impungenge zakwiyongera zizanwe na programmability zitari zasobanuka mu rwego rusange no ku bakoresha serivisi. Ubushakashatsi bwimbitse burakenewe kuri iyi ngingo.

3. Imiterere ya politiki ya CBDC

Imiyoborere

Imiyoborere y'amafaranga y'ikoranabuhanga ikubiyemo uruhare n'inshingano za buri wese mu birebana na CBDC. Iki gice ntigitanga ibisubizo bitandukanye. Ahubwo kiratanga imirongo ngenderwaho rusange ku ruhare n'inshingano.

Ibitekerezo bikurikira birerekana ingingo za ngombwa zo gushyiraho no gukurikirana urwego rwa CBDC, ku buryo uruhare n'inshingano zishobora kurebwaho hakurikijwe inzego zikurikira:

- Gutunganya, kwubaka no gukoresha ibikorwa remezo
- Kuyobora, guhuza, kwitabira cyangwa kugenzura urwego bikorerwamo
- Kwongera ibikorwa by'ubukungu no kubungabunga ukudahungabana n'ikizere mu rwego rw'imari.

Kubungabunga ukudahungabana n'ikizere mu rwego rw'imari biri mu nshingano za Banki Nkuru y'u Rwanda. Cyakora hari ibindi bikorwa byashingwa abafatanyabikorwa cyangwa se hakabaho ubufatanye n'abatanga serivisi z'ikoranabuhanga.

Banki Nkuru y'u Rwanda yari ikwiye kumenya neza ko ifite ibikoresho bikwiye n'ibindi bya ngombwa byo gukurukirana imihindagurikire y'isoko, gukomeza urwego no guteza imbere imikorere, kugenzura, gukurikirana no kubungabunga mu buryo bwa tekiniki.

Uburyo bw'imiyoborere bwifuzwa burerekana uruhare n'inshingano mu rwego rwa CBDC bishingiye ku miterere iriho y'inzego ebyiri mu mabanki, kandi irashaka kubaka ihereye ku ngufu n'ubunararibonye bya buri mufatanyabikorwa. Cyakora, bigomba kumvikana ko iyi mikorere ishobora guhindurwa bishingiye ku byemezo bya Banki Nkuru y'u Rwanda hamwe n'ubufatanye bw'urwego rw'abikorera ndetse na Leta. Bishobora kuvugwa ko iki gitekerezo cyagabanya ko ibikorwa remezo bya CBDC byabangamira urwego rwo kwishyura ruriho.

Ibijyanye n'amategeko

Ibyifuzwa	Ubundi buryo
Byemewe n'amategeko ku buryo bwuzuye	Uburyo bufite aho bugarurikira mu kwemerwa n'amategeko

Ibirebana n'amategeko ya CBDC byashyirwa mu mategeko agenga urwego rw'amafaranga, Banki Nkuru n'uburyo bwo kwishyurana. Zimwe mu ngero zifatika ni ukwibaza niba CBDC yafatwa nk'andi mafararanga akoreshwa.

Bitewe n'inzitizi ziriho zijyanye n'ubumenyi mu bijyanye n'ikoranabuhanga, cyane cyane mu cyaro, n'ibisabwa birebana n'ibikorwa remezo bikenewe, ntibyumvikana neza niba itegeko ryategeka abantu gukoresha CBDC. Niyo mpamvu ibikenewe kugira ngo CBDC ikoreshwe nk'ifaranga, bigomba gutekerezwaho neza kandi bikanashyirwa mu gisobanuro cya CBDC, nk'ifaranga rishobora gukoreshwa rikemerwa mu gihugu.

Inyigo yakozwe kuri CBDC mu Rwanda yanzuye ko iryo faranga-koranabuhanga mu Rwanda ryari rikwiye kwemererwa gukoreshwa kimwe n'inoti, hakitabwaho cyakora ibikenewe byavuzwe haruguru. Mu rwego rwo kugabanya ingorane zavuka, kurwanya ibikorwa by'iyezandonke, ndetse n'impungenge zo kubangamira ubwitabire bwa serivisi z'imari, birasabwa ko Banki Nkuru y'u Rwanda, yatekereza gushyiraho umubare ntarengwa wa CBDC ukwiye gutungwa no gukoreshwa. Banki Nkuru ikwiye no gutekereza ku wundi mubare ntarengwa mu gihe CBDC ashobora gukoreshwa mu bikorwa byo kwishyura bitanyuze kuli murandasi.

8. Umwanzuro n’icyerekezo

Ubushakashatsi bwagaragaje ko mu Rwanda hari amahirwe y’ibishobora gukorwa mu guteza imbere uburyo bwo kwishyurana. Amahirwe yagaragaye ni yo ashobora kubyazwa umusaruro. Hari inzitizi zituma inyigo itanzura ku gipimo cyizewe cyo hejuru ko u Rwanda rukeneye gushyiraho, muri iki gihe cyangwa mu gihe gito, Ifaranga-koranabuhanga rya Banki Nkuru.

Ikintu cy’ibanze gisabwa, aricyo kibazo, ni icyerekeranye no kumenya uburyo abaturage bakwakira iryo faranga, ari cyo gituma bigaragara ko hakenewe ubushakashatsi bucukumbuye ku bazarikoresha. Mbere yo gufata icyemezo birakwiye rero ko hakorwa ubushakashatsi bwerekeye uburyo abaturage bagenerwa kuzakoresha iryo faranga bashobora kuryakira. Mu gihe giciriritse kugeza ku gihe kirekire, ikibazo cyo kumenya niba hakenewe ifaranga-koranabuhangarya gishobora kugenda kirushaho kwigaragaza ku ruhande rwa BNR, bitewe n'inzira ikomeje y’uburyo bwo kwishyurana mu buryo bw’ikoranabuhanga no gukenera amafaranga ya banki nkuru kugira ngo ikomeze kuba inkingi ya mwamba mu bukungu nk'ubwo bushingiye ku ikoranabuhanga.

Mu buryo bwo gutera intambwe ijya imbere ari nako hakorwa inyigo icukumbuye, ubushakashatsi bwakomeza gukorwa mu bwitonzi kandi mu byiciro bitandukanye birimo icyo kugenzura ko umushinga w’ibijyanye na CBDC ushoboka, ndetse n’icyiciro cy’igerageza ryawo. Ibyiza bizagaragara ni byo bizaba intangiriro yo gutangiza igerageza rya CBDC mu Rwanda. Uko Banki Nkuru y’u Rwanda izagenda itera intambwe muri iyo nzira ni byo bizatuma hamenyekana birushijeho amahirwe n’ibindi bishobora kuganisha mu nzira yo gufata icyemezo. Mu buryo rusange, gukomeza ubushakashatsi bwerekeye CBDC byashyira BNR ku rwego rwo kuba yattangiza ifaranga-koranabuhanga kuko ari byo byatuma irushaho kwagura ubumenyi, ubushobozi n’ubuhanga bwayo mu byerekeye imiterere n’imikorere byaryo muri urwo rwego. Bizashyira kandi Banki Nkuru y’u Rwanda ku murongo umwe n’uw’izindi banki nkuru, muri Afurika no mu tundi turere cyangwa indi migabane by’isi, zirimo zikora ubushakashatsi kuri CBDC, kugirango izafatanye

nazo mu mu mishanga ya CBDC zahuriraho, urugero hakorwa igerageza kuri CBDC yakoreshwa mu bikorwa byo kwishyurana byambukiranya imipaka.

Muri rusange, gukomeza umushinga wa CBDC, urugero, hasuzumwa ko igitekerezo gifite ireme, cyangwa hakorwa igerageza ry'umushinga n'ibindi byiciro by'igerageza, bizagirira Banki Nkuru y'u Rwanda inyungu zitandukanye mu rwego rwo kuyongerera ubumenyi bw'ibanze n'ubunararibonye muri uru rwego rushya ariko rwihuta mu iterambere. Ibi byashyira BNR mu mwanya mwiza mu rwego rwo kwitegura, mu gihe hafatwa icyemezo cyo gushyiraho ifaranga-koranabuhanga rya Banki Nkuru mu gihe kiri imbere. Ni muri urwo rwego za banki nkuru ku isi hose zagiye zikora ubushakashatsi kuri CBDC, zinakora igerageza ryamaze imyaka myinshi kandi mu nzego zitandukanye ariko atatumye izo banki zishobora gufata icyemezo cy'uko zikeneye gutangiza ifaranga-koranabuhanga mu gihe gito.

Intambwe izakurikira nyuma y'iyi nyigo ni uko hakwiye gukorwa ubushakashatsi no kwigisha abaturage ibyerekeye CBDC, kugirango hamenyekane niba iryo faranga rihuye n'ibyifuzo by'abaturage bagenewe kuzarikoresha kandi niba ryazakoreshwa cyane nk'uburyo bwuzuza cyangwa busimbura uburyo busanzwe bwo kwishyurana. Gusuzuma niba uwo mushinga ufite ireme byakorwa mu byiciro bikurikirana, cyangwa bigakorwa mu buryo bw'ingaruka gihe nk'ibice bigize umushinga umwe, kugirango hasuzumwe aho ryakoreshwa. Nyuma yo gufata umwanzuro ku bushakashatsi bwakozwe ku bagenewe gukoresha CBDC no ku mikoreshereze yayo, Banki Nkuru y'u Rwanda igomba kuzafata icyemezo igahitamo niba izakomeza ubushakashatsi kuri CBDC mu buryo bw'umushinga w'igeregeza, cyangwa niba ubushakashatsi bugomba gusubikwa cyangwa bugahagarikwa. Mu gihe ubushakashatsi bwakomeza kandi nyuma y'uko umushinga w'igerageza utanze umusaruro mwiza, nibwo Banki Nkuru y'u Rwanda yafata icyemezo cyo kujya ku rwego rwo gukora CBDC yayo.

Umugereka wa 1

Uburemere bw'amahirwe ya CBDC ugereranyije n'andi mahitamo ahari

	Amahirwe	CBDC		Amahitamo ashoboka		CBDC Muri rusange	Uburemere bw'ibibazo
		Birakwiranye	Birashoboka	Birakwiranye	Birashoboka		
1	Kuzamura imikorere igamije gukumira Ibibazo by'imirongo y'itumanaho itaboneka buri gihe, ibibazo by'ibura ry'amashanyarazi n'ibibazo biterwa n'ibiza	2	2	2	1	0.5	2.5
2	Guteza imbere ibigezweho n'amarushanwa	2	3	2	2	0.5	3
3	Kugira uruhare muri gahunda y'iGihugu yo kubaka ubukungu bushingiye ku uburyo bwo kwishyurana hakoreshejwe ikoranabuhanga	2	2.5	1.5	2	0.5	2.5
4	Guteza imbere ihererekanya ry'amafaranga yambukiranya imipaka mu buryo bwihuta, buhendutse, burushijeho gukorera mu mucyo kandi budaheza	2.5	2.5	2	2	0.5	2.5
5	Gutezimbere urwego rwa serivisi z'imari rudaheza mu kugeza serivisi z'imari zisanzwe kuri buri muntu, mu kumuha ubushobozi bwo kugira uruhare mu	2	2	1	3	0	3

	Amahirwe	CBDC		Amahitamo ashoboka		CBDC	Uburemere bw'ibibazo
		Birakwiranye	Birashoboka	Birakwiranye	Birashoboka	Muri rusange	
	bukungu bushingiye kw'ikoranabuhanga, ndetse no kugeza izo serivisi ku bantu badafite konti ya banki / konti muri telefoni igendanwa, umuyoboro wa telefoni, cyangwa umuntu udafite telefone igezweho.						
6	Kuzana ibisubizo by'ibibazo byo kwishyurana bidashingiye ku miyoboro y'ikoranabuhanga ya 3G na 4G	2	3	2	1	1	2
7	Gukwirakwiza cyane ibikoresho bihendutse byifashishwa mu kwishyura, nk'amakarita yo kwishyura na terefone zikoresha ikoranabuhanga mu itangazabumenyi n'itumanaho (interineti)	2	3	2	3	0	2
8	Gukomeza gutera inkunga za MSME (ibigo bito n'iciriritse) binyuze muri za SACCOs (Koperative zo Kuzigama no Kuguriza) na za MFIs (Ibigo Bito by'imari)	3	3	3	2	0.5	2
9	Kuzamura urwego rw'ubumenyi mu bijyanye n'imari, ubukungu n'ikoranabuhanga.	1	1	2	2	-1	3

	Amahirwe	CBDC		Amahitamo ashoboka		CBDC	Uburemere bw'ibibazo
		Birakwiranye	Birashoboka	Birakwiranye	Birashoboka	Muri rusange	
10	Gukwirakwiza uburyo bwo kwishyurana bworoshye kumva no gukoresha	3	3	2	3	0.5	1.5
11	Kugabanya ikiguzi cyo kwishyurana kw'isoko hakoreshejwe uburyo bw'ikoranabuhanga	2	1	2	1	0	2
12	Kuzamura imikorere y'abantu bose bagira uruhare mu buryo bwo kwishyurana hakoreshejwe telephone zigendanwa	2	2	2	1	0.5	1
13	Kuzamura imikorere y'uburyo Leta ikoresha mu kwishyura	2	2.5	2	1.5	0.5	1.5
14	Gukomeza ubusugire bw'ifaranga no gucunga ingaruka zerekeranye n'amafaranga y'ikoranabuhanga cyangwa imitungo idafatika byashyizweho n'abikorera kandi bitagira amategeko abigenga	2	2	1.5	2	0.25	1
15	Gushyiraho uburyo bwo kwirinda ibikorwa by'uburiganya bugaragara kenshi	1	1	1	1	0	1.5

NATIONAL BANK OF RWANDA
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